

Comparison of grass utilisation performance of perennial ryegrass varieties

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Introduction

- Previous studies have found that perennial ryegrass varieties differ in the level of grazing utilization (Cashman et al.)
- Poor grazing efficiency results in:
 - Reduced feed DM intake
 - Reduced leaf proportion in sward
 - Mechanical sward correction
- Objective was to understand the grazing efficiency of varieties and its relationship to grazing DM Production



Materials and methods



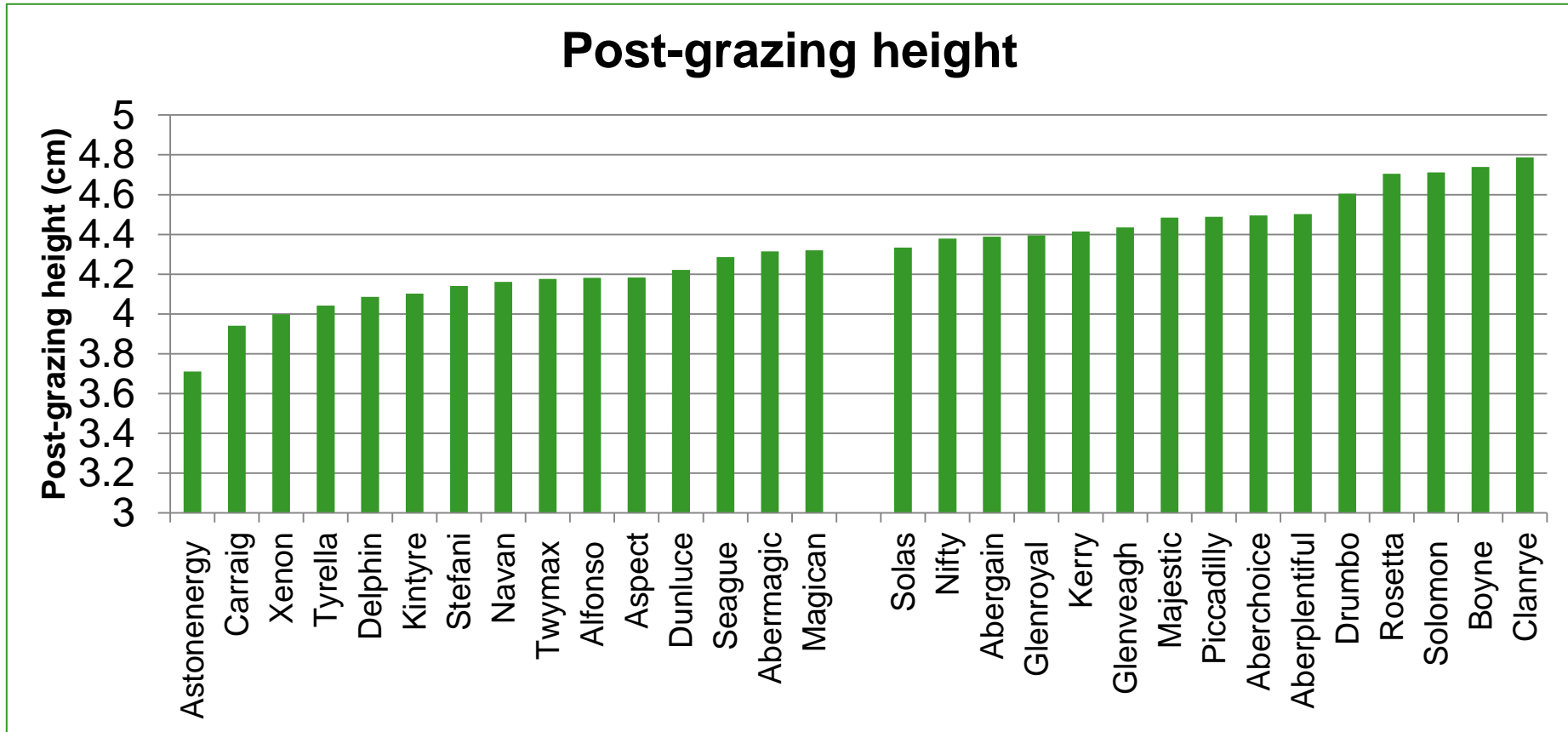
- 30 varieties from DAFM Irish Recommended list were sown in 8 × 4.5m plots in 3 replicates
- Varieties ranged in ploidy and heading dates
- Varieties were rotationally grazed by dairy cows from March to November 2017 with 11 grazings

Materials and methods

■ Grass Measurements :

- DM yield: harvested by an Etesia motor and weighed in each plot
- Pre/post -grazing height: measured by a rising plate meter
- Grass Quality: Samples freeze dried, milled and scanned by NIR
- Morphological canopy measurement: Tiller and sheath heights, leaf/stem/dead proportions measured at each grazing
- Data analysed using SAS (2003) – Variables for block, variety and grazing event

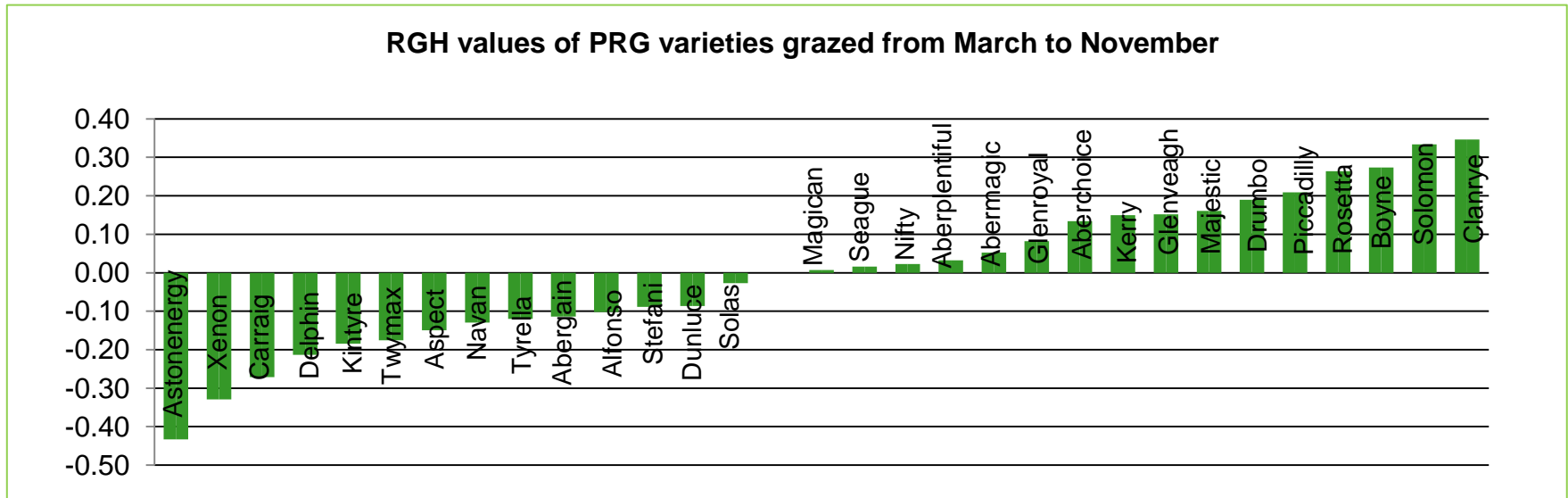
Results – Grazing Season 2017



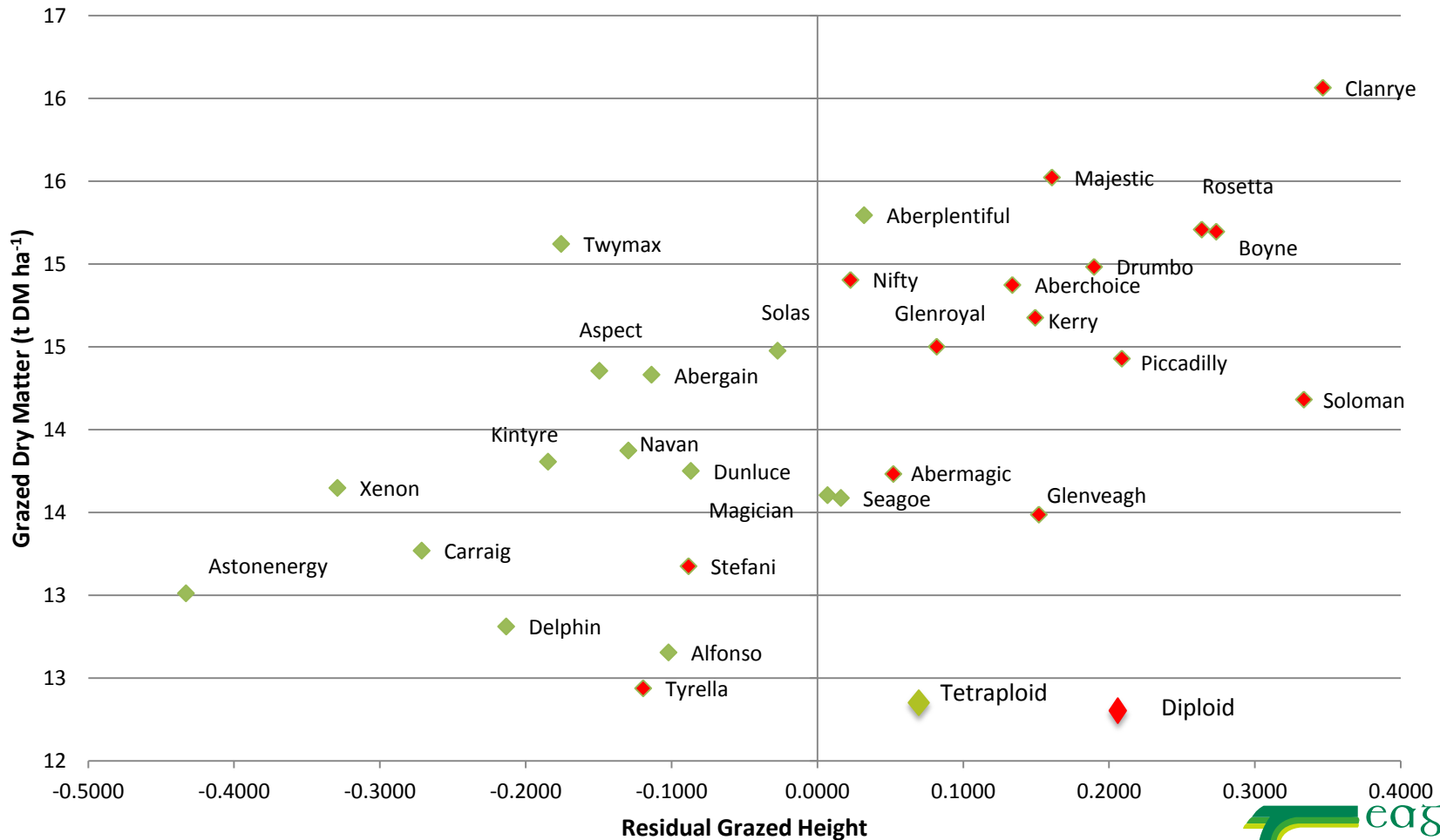
**1cm post-grazing height difference was recorded between the varieties
(3.7cm vs. 4.7cm) over the entire grazing season**

Results – Grazing Season 2017

- Pre-grazing height was found to have a significant positive effect on post-grazing height
- A linear model was created to predict the post-grazing height of each variety
- Residual grazed height (RGH) is the difference between the achieved post grazing height and the predicted post-grazing height
- A negative RGH is indicative of a variety with greater utilisation performance



Residual grazed height and Grazed DM production



Conclusions - First Years Findings

- Grazing utilisation was significantly different between varieties
- Increases in pre-grazing height and DM yield, increases post-grazing height - a negative relationship with grass utilisation
- Some varieties do not conform to this relationship, particularly tetraploids

Conclusions



- Some tetraploids have greater grazing performance because:
 - Larger free leaf lamina
 - Increased tiller mass
 - Reduced sward bulk density
 - Higher quality sub index in Pasture profit Index

Further Information

- The study is in to its second grazing season in 2018.
- Quality analysis of the varieties is still to be completed and related to the 2017 performance
- 2017 and 2018 RL varieties not included in this trial have been sown and will be trialled under the same protocol in future years.

